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EXAMINER	
TON, ANTHONY T	

ART UNIT	PAPER NUMBER
2661	5

DATE MAILED: 04/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/750,096	CHMARA ET AL.	
	Examiner	Art Unit	
	Anthony T Ton	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 February 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 February 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTIONS

Abstract Objections

1. The disclosures in the abstract are objected to because of the following informalities:

Term "**is ouput**" in **line 9 and line 10** is not appropriate. This could be a typo.

Examiner suggests changing this term to "**is outputted**".

Appropriate correction is required.

Claim Objections

2. **Claims 1** and **19** are objected to because of the following informalities:

a) Term "**the primary mode**" in **Claim 1** in line **11** is not appropriate. This could be a typo on the word "**mode**"; it should be "**node**".

Examiner suggests changing this term to "**the primary node**".

b) Term "**were**" in **Claim 6** in **lines 7 and 12**; in **Claim 14** in **lines 7 and 12**; and in **Claim 20** in **lines 8 and 13** is improper since the term is not appropriate with the subject of the phrase "**each of the checkpoint message acknowledgments**" in the claims.

Examiner suggests changing this term to "**was**".

c) Term "**is it**" in **Claim 6** in **line 10**; in **Claim 14** in **line 11**; and in **Claim 20** in **line 11**. This could be a typo.

Examiner suggests changing this term to "**it is**".

d) Term "**if is**" in **Claim 6** in **line 15**; in **Claim 14** in **line 15**; and in **Claim 20** in **line 16**. This could be a typo because it is missing the word "**it**" between the "**if**" and "**is**". Examiner suggests changing this term to "**if it is**".

e) Term "**node..**" in **Claim 16** in **line 8** (at the end of the claim 16) is improper. This could be a typo. One extra period "." should be removed from the term.

Examiner suggests changing this term to "**node.**"

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 1, 2, 4, 5, 7-10, 12, 13, 15, 16 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Shinbashi et al** (US Patent No. **5,796,717**) in view of **Leung et al** (US Patent No. **6,111,852**).

a) **Regarding to Claim 9**: **Shinbashi et al disclosed** an apparatus for preventing information losses due to network node failure, the apparatus comprising:

a primary node *(see Fig.4A: block 1-1, working unit)*;

at least one backup node operatively connected to the primary node *(see Fig.4A: blocks 3-1 and 3-2, stand-by unit)*;

means for receiving ingress traffic in the primary node from a first endpoint *(see Fig.6: blocks Mux/Demux (means for receiving ingress traffic), and block SW on the top-left of the figure (a first endpoint))*;

means for replicating the ingress traffic to the at least one backup node *(see Fig.4A: connection from Input line of the primary node to the input of block 4a)*;

means for outputting primary egress traffic from the primary node *(Fig.6: blocks Mux/Demux and Output line);*

means for outputting backup egress traffic from the at least one backup node *(see Fig.6: blocks Mux/Demux of the Stand-By Unit block)*;

determining means operatively connected to the primary node and the at least one backup node for determining whether the primary node has failed *(see Fig.6: blocks Control unit (on the common Stand-by Unit) and Sub-CPU (on one-by-one of the working units nodes and stand-by units); and see col.5 lines 19-35: failure detection signals)*;

means for transmitting the primary egress traffic from the primary node to a second endpoint if the determining means determine that the primary node has not failed *(see Fig.6: blocks SW and blocks Mux/Demux of the working unit)*; and

means for transmitting the backup egress traffic from a selected one of the at least one backup nodes to the second endpoint if the determining means determine that the primary node has failed *(see Fig.6: blocks SW and blocks Mux/Demux of the stand-by unit).*

Shinbashi et al failed to explicitly disclosed synchronizing means operatively connected to the primary node and the backup node for synchronizing the at least one backup node and the primary node.

Leung et al. clearly disclosed such synchronizing means *(see Fig.2: blocks 50 and 70 (synchronizing means); see abstract: the remote network processor (back-up node) is periodically updated with configuration data obtained from the inservice local network processor (primary node) hence, synchronization and data is replicated;*

and see col.7 line 49-col.8 line 9: INSV block 24 (primary node) is operating as a routing, it is important that operating data periodically transferred (hence, synchronizing) to the remote ERS NP 28 (back-up node)).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide such synchronizing means throughout sub-CPU units of the working unit and stand-by unit of Shinbashi et al, as taught by Leung et al so that data can be immediately transferred throughout the stand-by unit without processing if a failure occurs at the primary unit, **the motivation being** to provide enhancing reliability and more efficiency in a data packet network.

b) **Regarding to Claim 10: Shinbashi et al failed to explicitly disclosed** the primary node and the at least one backup node are network routers.

Leung et al. clearly disclosed such primary node and at least one backup node are network routers *(see Fig.1:* X.25 network and blocks 22 and 20).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide such primary node and at least one backup node are network routers throughout the switching system of Shinbashi et al, as taught by Leung et al so that data can be transmitted and received in different networks, **the motivation being** to provide the communication of Shinbashi et al in a higher protocol.

c) **Regarding to Claim 12: Shinbashi et al failed to explicitly disclosed** means for transmitting synchronization information from the primary node to the at least one backup node.

Leung et al. clearly disclosed such synchronizing means *(see Fig.2: blocks 52 and 84).*

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide such synchronizing means throughout SW units 2a and 4a of the working unit and stand-by unit of Shinbashi et al, as taught by Leung et al so that data can be immediately transferred throughout the stand-by unit without processing if a failure occurs at the primary unit, **the motivation being** to provide enhancing reliability and more efficiency in a data packet network.

d) **Regarding to Claim 13**: **Shinbashi et al failed to explicitly disclosed** the means for transmitting synchronization information further comprise:

means for transmitting at least one checkpoint message from the primary node to the at least one backup node, wherein the at least one checkpoint message includes static information relating to the primary node as well as any outstanding session context for the primary node.

Leung et al disclosed such means for transmitting *(see Fig.2: blocks 54 and 52; see Fig.10 and col.4 lines 3-16: all the appropriate files that may be subject to change are transferred to the back-up site 22).*

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide such means for transmitting throughout the working unit and stand-by unit of Shinbashi et al, as taught by Leung et al, so that the back-up node can have the same configuration as that of the primary node to transmit data to destinations without any process of other network elements, **the motivation being** to provide enhancing efficiency in a data packet network.

e) **Regarding to Claim 15: Shinbashi et al failed to explicitly disclosed** the apparatus further comprising:

means for periodically assessing synchronization maintenance between the primary node and the at least one backup node.

Leung et al disclosed such means for periodically assessing synchronization maintenance between the primary node and the at least one backup node *(see Fig.11: update cycle; see col.8 lines 64-67: means for periodically updating system configuration files; and see col.6 lines 50-56).*

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide such means for periodically assessing synchronization maintenance between the primary node and the at least one backup node throughout the working unit and stand-by unit of Shinbashi et al, as taught by Leung et al in order to allow an establishment with a large number of network elements without overloading at the CPU of a primary node and a backup node in a data communication network, **the motivation being** to provide enhancing efficiency in a data packet network.

f) **Regarding to Claim 16: Shinbashi et al failed to explicitly disclosed** the means for periodically assessing synchronization maintenance further comprise:

means for transmitting at least a portion of an internal state of the primary node to the backup node sufficient to permit replication of primary node traffic on the at least one backup node.

Leung et al disclosed such means for transmitting *(see Fig.3: it shows the process for establishing connection to the remote NP (backup node) when an ERS is*

first brought up; and see col.8 lines 64-65: means for maintaining up-to-date system configuration; and see col.4 lines 18-30: first batch of NEs on an internal list).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide such means for transmitting at least a portion of an internal state of the primary node to the backup node sufficient to permit replication of primary node traffic on the at least one backup node throughout the switching system of Shinbashi et al, as taught by Leung et al in order to allow an initial establishment in a communication network without overloading at the CPU of a backup node, **the motivation being** to provide an initial establishment to a backup node efficiently.

g) **Regarding to Claims 1, 2, 4, 5, 7 and 8**: These claims are rejected for the same reasons as Claims 9, 10, 12, 13, 15 and 16, respectively because the apparatus in Claims 9, 10, 12, 13, 15 and 16 can be used to practice the method steps of Claims 1, 2, 4, 5, 7 and 8.

h) **Regarding to Claim 22**: **Shinbashi et al** disclosed all aspects of claim 22 as set forth in claim 1. However, **Shinbashi et al failed to explicitly disclose** a computer data signal embodied in a carrier wave readable by a computing system and encoding a computer program of instructions for executing a computer process performing the method recited in claim 1. **Leung et al disclosed such** a computer data signal (*see Fig.1: computers 40, 42, and 46 connected to the primary node and backup node via the X.25 network 46).*

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide such a computer data signal throughout the control unit in the switching system of Shinbashi et al, as taught by Leung et al in order to

operate the switching system as desirable, **the motivation being** to make Shinbashi et al more efficient.

5. **Claims 3 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Shinbashi et al** (US Patent No. **5,796,717**) in view of **Leung et al** (US Patent No. **6,111,852**) as applied to claims 9 and 1 above, and further in view of **Adams, Jr. et al** (US Patent No. **5,444,782**).

a) **Regarding to Claim 11**: **Shinbashi et al and Leung et al disclosed** all aspects of claim 11 as set forth in claim 9. **However**, both **Shinbashi et al** and **Leung et al failed to disclose** the primary node and the at least one backup node are security engines for receiving encrypted ingress traffic and outputting decrypted egress traffic.

Adams, Jr. et al disclosed such encrypted/decrypted ingress/egress engines *(see col.3 lines 46-59: hardware for encrypting and decrypting data).*

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement such security engines throughout the switching system of Shinbashi et al, as taught by Adams, Jr. et al in order to secure communication between computer systems connected to an open network, while allowing full access to other computer systems, **the motivation being** to provide secure communications in both Shinbashi et al and Leung et al.

b) **Regarding to Claim 3**: This claim is rejected for the same reasons as Claim 11 because the apparatus in Claim 11 can be used to practice the method steps of Claim 3

6. **Claims 17-19 and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Leung et al** (US Patent No. **6,111,852**) in view of **Isoyama et al** (US Patent No. **6,680,946**).

a) **Regarding to Claim 17: Leung et al disclosed** an article of manufacture for preventing information losses due to network node failure, the article of manufacture comprising:

at least one processor readable carrier *(see Fig.4: routing Table; and see Fig.1: monitor 40)*; and

instructions carried on the at least one carrier *(see Figs.4 and 12: the entries in figure 4 that are used to describe the mode to which a network processor is set after it is first brought up (hence, instructions))*;

wherein the instructions are configured to be readable from the at least one carrier by at least one processor *(see Fig.2: inservice and backup processors)* and thereby cause the at least one processor to operate so as to:

synchronize a primary node and at least one operatively connected backup node *(see abstract: the remote network processor (back-up node) is periodically updated with configuration data obtained from the inservice local network processor (primary node) hence, synchronization and data is replicated; and see col.7 line 49-col.8 line 9: INSV block 24 (primary node) is operating as a routing, it is important that operating data periodically transferred to the remote ERS NP 28 (back-up node), (hence, synchronizing))*.

receive, from a first endpoint, ingress traffic *(see Fig.1: block 20; and see col.1 lines 41-44: a routing controller receives reports)*;

replicate the ingress traffic to the at least one backup node *(see abstract: the remote network processor (back-up node) is periodically updated with configuration data obtained from the inservice local network processor (primary node) hence, data is replicated; and see Fig.2: connections from blocks 52 to 84 (hence, data is replicated and sent to the backup node))*.

output, from the primary node, primary egress traffic related to the ingress traffic *see col.1 lines 41-49: transmits recommendations to each of connected network elements)*;

output, from the at least one backup node, backup egress traffic related to the ingress traffic *(see Fig.2: the connections between block 52 in the inservice side and block 84 in the backup site, and the connections between block 72 in the backup side and block 64 in the inservice site (hence, the ingress traffic is outputted egress traffic))*;

determine if the primary node has failed *(see col.3 lines 2-3: failure of the inservice network processor; and see col.5 lines 55-67: its mode is set to "0" which indicates that it is in the emergency restore system mode unless otherwise determined)*; and

transmit, from a selected one of the at least one backup nodes, backup egress traffic to the second endpoint *(see Fig.2: block 64)* if it is determined that the primary node has failed,

wherein the backup egress traffic replaces the primary egress traffic to the second endpoint and the selected one of the at least one backup nodes becomes the primary node for subsequent traffic *(see Fig.2: the connections between block 52 (first endpoint*

of the primary node) in the inservice side and block 84 in the backup site, and the connections between block 72 in the backup side and block 64 in the inservice site).

Leung et al failed to explicitly disclose instructions cause the at least one processor to operate to as to transmit, from the primary node, primary egress traffic related to the ingress traffic to a second endpoint if it is determined that the primary node has not failed.

Isoyama et al disclosed such a transmission from ingress to the second endpoint *(see Figs 2A-2D: default VC and flow-dedicated VC).*

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement such a transmission from ingress to the second endpoint throughout the system of Leung et al, as taught by Isoyama et al in order to ensure a connection is setup and ready before transmitting data packets to a next node, **the motivation being** to make Leung et al more reliable.

b) **Regarding to Claim 18**: **Leung et al further disclosed** the instructions further cause the at least one processor to operate so as to:

transmit synchronization information from the primary node to the at least one backup node (*see col.7 line 49-col.8 line 9: INSV block 24 (primary node) is operating as a routing, it is important that operating data periodically transferred (hence, synchronizing) to the remote ERS NP 28 (back-up node)).*

It would have been obvious to combine Leung et al and Isoyama et al for the same reason as in Claim 17.

c) **Regarding to Claim 19**: **Leung et al further disclosed** the instructions further cause the at least one processor to operate so as to:

transmit at least one checkpoint message from the primary node to the at least one backup node, wherein the at least one checkpoint message includes static information relating to the primary node as well as any outstanding session context for the primary node *(see Fig.2: blocks 54 and 52; see Fig.10 and col.4 lines 3-16: all the appropriate files that may be subject to change are transferred to the back-up site 22).*

It would have been obvious to combine Leung et al and Isoyama et al for the same reason as in Claim 17.

d) **Regarding to Claim 21**: **Leung et al further disclosed** the instructions further cause the at least one processor to operate so as to:

periodically assess synchronization maintenance between the primary node and the at least one backup node *(see Fig.11: update cycle; see col.8 lines 64-67: means for periodically updating system configuration files; and see col.6 lines 50-56).*

It would have been obvious to combine Leung et al and Isoyama et al for the same reason as in Claim 17.

Allowable Subject Matter

7. **Claims 6, 14 and 20** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Anthony T Ton** whose telephone number is 703-305-8956. The examiner can normally be reached on M-F: 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W Olms can be reached on 703-305-4703. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ATT 4/5/2004

KENNETH VANDERPUYE
PRIMARY EXAMINER